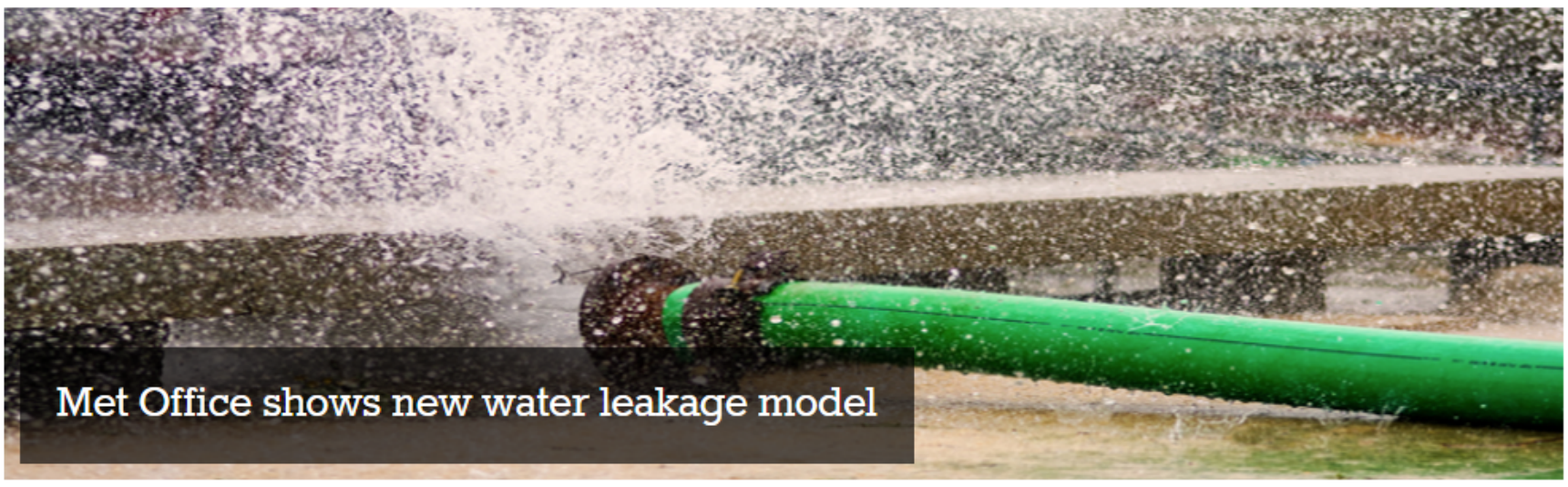

Met Office shows new water leakage model

17 October 2013 - The Met Office will show its new leakage model along with its other Weather Intelligence Models for demand, seasonal night use, pipe burst and turbidity data - at the UK Water Annual Leakage Conference, 24 October 2013.

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Historically water leakage has been difficult for water companies to quantify or forecast accurately across water networks and resource zones, because of the large weather dependency. Understanding this weather dependency enables accurate modelling and reporting of the leakage.

Leakages account for up to 30% of the total annual distribution input across the water company's network. The Met Office's leakage prediction model assesses and predicts the influence of weather on leakage, which is known to particularly increase in periods of winter weather. The model allows for the close management of weather related leakage, on a week by week basis, enabling the water company to monitor and review its leakage strategy and expenditure on leakage reduction work can be set against levels of risk.

The launch of the new Met Office weather intelligence models follows a successful collaboration with Thames Water to make the suite of models available across the whole water industry. The models, which have been developed to include the Met Office's world leading weather data, can be adapted and calibrated to individual water company regions.

Michelle Spillar, Head of Utilities at the Met Office, says, "Our new modelling suite enables water companies to perform day by day network monitoring, forecast trends and analyse actual and predicted future events tailored to their specific network characteristics - offering multiple benefits and cost savings across water resources' strategy and operations."

In addition to leakage the Met Office's suite of weather intelligence models consists of:

Burst model

- Increases in pipe burst occurrence during cold-weather winter periods cause large fluctuations in workload and resources required in call centre and repair teams.
- Understanding and modelling weather related pipe bursts enables prediction of likely burst numbers on a 15 day time scale, allows for optimal resource deployment.
- Integration of the burst model into contingency planning and emergency response, allows some of the worst impacts of winter weather to be modelled and quantified with mitigation activities planned.

Demand model

- Summer water demand can vary by up to 10% according to the weather.
- The Met Office's demand model can be used for long term strategic and short term operational demand modelling, prediction and water resource management.
- The model allows water companies to manage service reservoir storage levels optimally, providing efficiencies in energy use and security of supply during peak periods. Maintenance activities can be scheduled with increased confidence and assessment of the business benefits of implementing demand management measures, such as temporary use bans, can be undertaken accurately.

Seasonal night usage model

- Night usage of water is known to increase in summer, in accordance with hot and dry weather conditions and other relevant factors.
- Separating additional summer night use and leakage is challenging for water companies.
- The seasonal night use model allows seasonal usage increases to be separated from leakage. Leakage trends across different resource zones over the summer can be monitored with the weather signal removed and leakage planners are able to use the seasonal night use model results to target detection resources effectively during the summer. Accurate assessments of true leakage early in the year, can benefit leakage targeting later in the year.

Turbidity model

- The measurement of turbidity, the cloudiness or haziness of a fluid, is a key test of water quality.
- Heavy rainfall causes increases in the levels of suspended particles in rivers, increasing the level of treatment needed.
- The cost incurred in bringing the untreated water up to drinking water quality can increase the cost of production by up to five times.
- The turbidity model enables the relationship between heavy rainfall and turbidity to be modelled, helping manage resources and minimise the impact of high turbidity events.

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